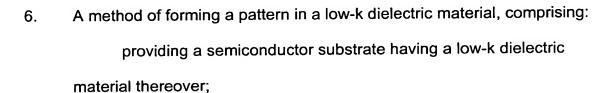


- A method of forming a pattern in a low-k dielectric material comprising: providing a mold having a complement of the pattern thereon; and pressing the mold into the low-k dielectric material.
- 2. The method of claim 1 wherein the low-k dielectric material comprises a low-k polymer.
- 3. The method of claim 1 wherein the low-k dielectric material consists essentially of a low-k polymer.
- 4. The method of claim 1 wherein the low-k dielectric material consists of a low-k polymer.
- 5. The method of claim 1 further comprising forming a conductive material within the pattern.



providing a mold having a first pattern comprising projections and valleys between the projections;

pressing the low-k dielectric material between the mold and the semiconductor substrate to form a second pattern in the low-k dielectric material, the second pattern being substantially complementary to the first pattern; and

removing the mold from over the low-k dielectric material.

- 7. The method of claim 6 wherein the mold comprises a siloxane composition.
- 8. The method of claim 6 wherein the mold comprises a silicone composition.

9. The method of claim 6 further comprising aligning the mold and substrate relative to one another before the pressing, and wherein:

the semiconductor substrate has an optical alignment pattern supported thereby; and

the mold comprises a region through which the optical alignment pattern can be viewed during the aligning of the mold and substrate relative to one another.

10. The method of claim 6 further comprising aligning the mold and substrate relative to one another before the pressing, and wherein:

one of the semiconductor substrate and mold has a pin associated therewith during the aligning;

the other of the semiconductor substrate and the mold has a receptacle associated therewith during the aligning; and the aligning comprises mating the pin within the receptacle.

- 11. The method of claim 6 wherein the second pattern comprises openings extending through the low-k dielectric material, and further comprising forming a conductive material within the openings.
- 12. The method of claim 11 further comprising forming a redistribution layer within the openings of the second pattern.

- 13. The method of claim 6 wherein the second pattern comprises shallow trenches within the low-k dielectric material and deep openings through the low-k dielectric material, and further comprising forming a conductive material within the trenches and openings.
- 14. The method of claim 13 wherein the conductive material within the trenches and openings corresponds to at least a portion of a redistribution layer.
- 15. A method of forming a pattern in a mass provided over a patterned material on a semiconductor wafer comprising:

providing a mold having a complement of the pattern formed in the mass thereon; and

pressing the mold into the mass.

- 16. The method of claim 15 wherein the mass does not consist essentially of photoresist.
- 17. The method of claim 15 wherein the mass does not comprise photoresist.

18. The method of claim 15 wherein the pattern formed in the mass is aligned relative to a pattern in the patterned material by:

providing a first alignment article associated with the patterned material and a second alignment article associated with the mold; and aligning the first and second alignment articles relative to one another during the pressing of the mold into the mass.

A method of forming a mold, comprising:

providing a template having a complement of a desired mold pattern thereover, the template being approximately the size of a semiconductor wafer and the desired mold pattern being a pattern utilized for contact lithography during semiconductor processing;

providing a sheet having holes extending therethrough;
providing a mold material precursor between the sheet and the template;

pressing the mold material precursor between the sheet and the template;

curing the mold material precursor during the pressing to convert the precursor to a mold material having the desired mold pattern; the mold material penetrating through the openings in the sheet and being joined with the sheet to define a mold comprising the mold material and the sheet; and

removing the mold from the template.

- 20. The method of claim 19 wherein the pressing and curing comprise hot isostatic pressing of the mold material precursor.
- 21. The method of claim 19 wherein the mold material is a thermoplastic material.
- 22. The method of claim 19 wherein the cured mold material is a semi-solid material.
- 23. The method of claim 19 wherein the cured mold material is a silicone rubber.
- 24. The method of claim 19 wherein the sheet comprises a substantially rigid material.
- 25. The method of claim 19 wherein the sheet material is a metallic material.
- 26. The method of claim 19 wherein the sheet comprises spring steel.

- 27. The method of claim 19 wherein the template has a first alignment article associated therewith, the sheet has a second alignment article associated therewith, and further comprising aligning the first and second alignment articles relative to one another before the pressing.
- 28. The method of claim 27 wherein one of the first and second alignment articles is a pin and the other of the first and second alignment articles is a receptacle; and wherein the aligning comprises mating the pin within the receptacle.
- 29. The method of claim 27 wherein the template is shaped substantially identically to a semiconductor wafer; wherein the template is provided within a holder prior to the pressing, and wherein the first alignment article is part of the holder.
- 30. The method of claim 27 wherein the template is a semiconductor wafer; wherein the template is provided within a holder prior to the pressing, and wherein the first alignment article is part of the holder.
- 31. The method of claim 27 further comprising utilizing the mold to form a pattern in a material across a semiconductor wafer.



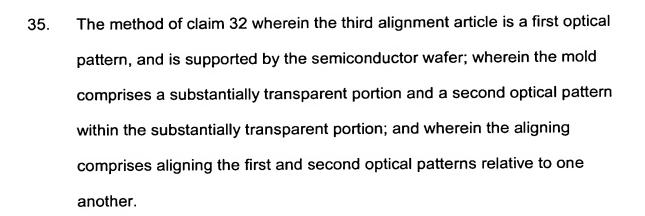
32. The method of claim 27 further comprising utilizing the mold for contact lithography of a mass across a semiconductor wafer; the method including:

providing a semiconductor wafer having a mass thereover, the wafer having a third alignment article associated therewith;

aligning the second alignment article with the third alignment article; and

after aligning the second and third alignment articles with one another, pressing the mold relative to the mass to form a reverse image of at least a portion of the mold pattern within the mass.

- 33. The method of claim 32 wherein the semiconductor wafer is provided within a holder prior to the pressing, and wherein the third alignment article is part of the holder.
- 34. The method of claim 32 wherein one of the second and third alignment articles is a pin and the other of the second and third alignment articles is a receptacle; and wherein the aligning comprises mating the pin within the receptacle.



- 36. A mold configured to pattern a mass over a semiconductor substrate during contact lithography of the mass, and comprising:
 - a substantially rigid sheet having holes extending therethrough;

a patterned material joined to the sheet, the patterned material extending through the holes in the sheet, the patterned material having a pattern therein which is a reverse image of a pattern which is to be formed in the mass during contact lithography.

- 37. The mold of claim 36 wherein the patterned material is a thermoplastic material.
- 38. The mold of claim 36 wherein the patterned material is a semi-solid material.

- 39. The mold of claim 36 wherein the patterned material is a cured siloxane material.
- 40. The mold of claim 36 wherein the patterned material is a cured silicone rubber material.
- 41. The mold of claim 36 wherein the sheet is metallic.
- 42. The mold of claim 36 wherein the sheet is spring steel.
- 43. The mold of claim 36 wherein the sheet has an alignment article associated therewith and configured to align the mold with the semiconductor substrate during the contact lithography.
- The mold of claim 36 wherein the pattern in the patterned material corresponds to a reverse image of at least a portion of a redistribution layer.